



Groundwater in California: It's not just about Groundwater



The Nature Conservancy: Our Mission





Why Does TNC Care About Groundwater?

Ecosystems and Groundwater are Connected

Groundwater Conditions Affect:

Streams and Rivers

Riparian Areas

Wetlands





Balancing Needs

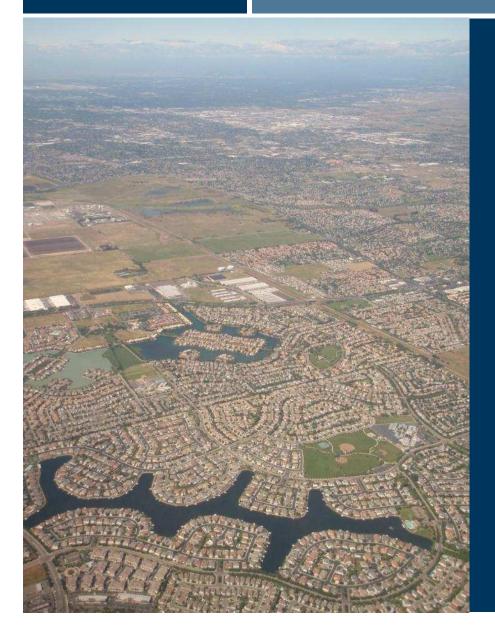
- Reality of California:
 - People Need Water
 - Agriculture Needs Water
 - Water is Highly Managed







Sustainable Water for People and Nature





Solutions for Ecosystems

Must work for People



Groundwater Affects Stream Flow





Groundwater Affects Stream Flow

"Gaining Stream"

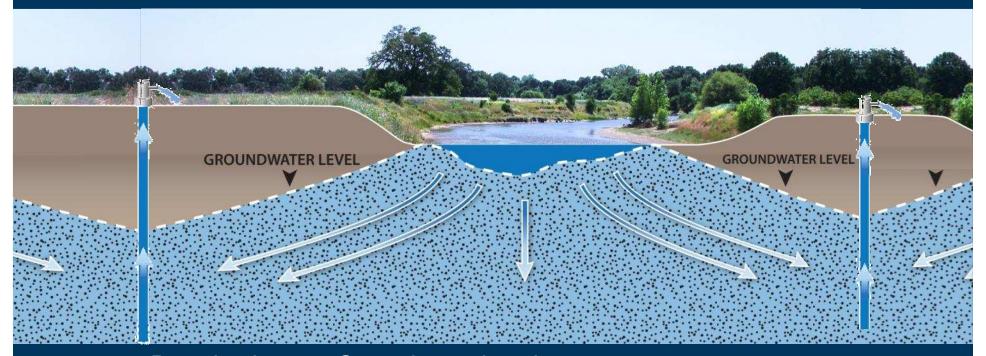


High Groundwater Levels Groundwater Maintains Stream Flow



Groundwater Affects Stream Flow

"Losing Stream"



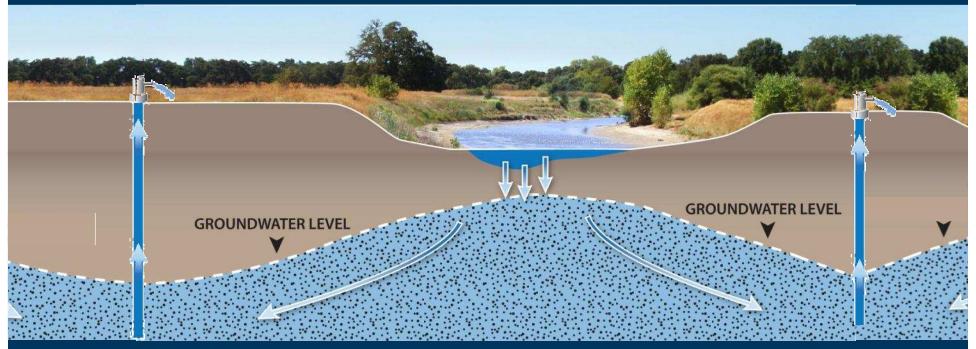
Pumping Lowers Groundwater Levels Stream Loses Flow to Groundwater



Groundwater Affects Stream Flow

"Losing Stream"

Groundwater Levels Below Stream Channel



Pumping Lowers Groundwater Levels Stream Loses Flow to Groundwater



Groundwater Affects Stream Flow

Dry Stream

Seepage to Groundwater Exceeds Stream Flow Dry Stream Channel (Intermittently or Year-round)



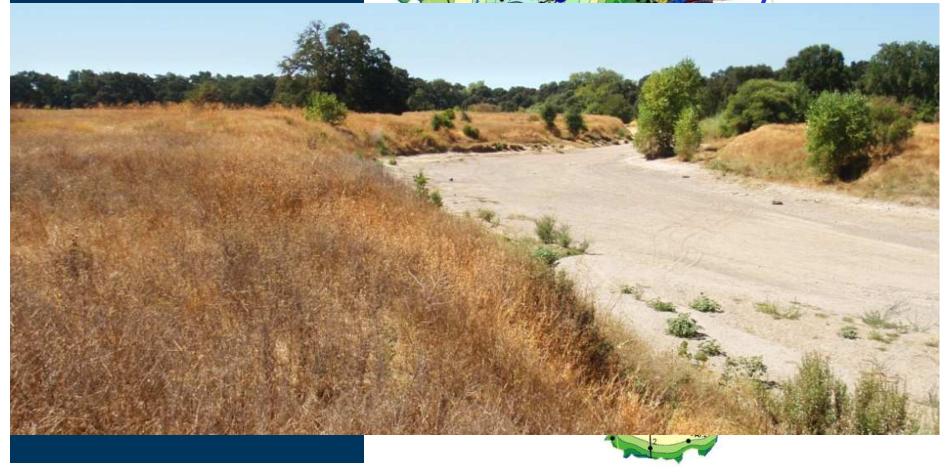
Pumping Lowers Groundwater Levels
Stream Loses Flow to Groundwater



Example Connection – The Cosumnes River

Groundwater Affects Stream Flow

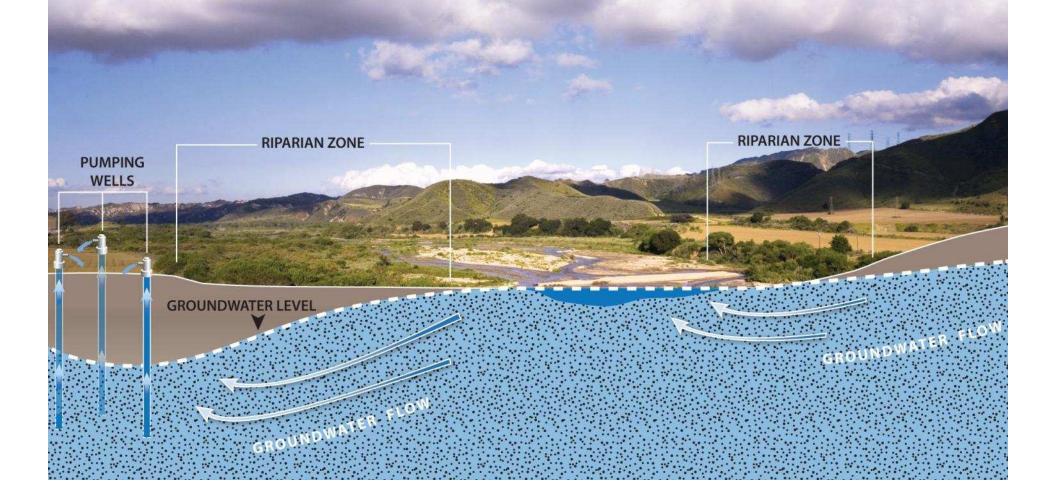






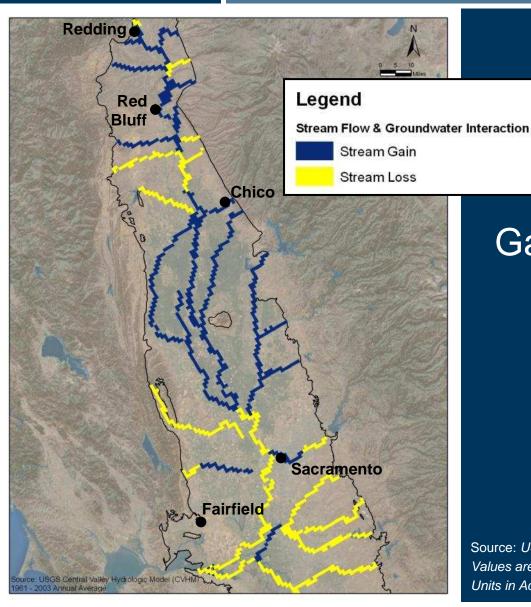
Not Just about Fish

Groundwater Conditions Affect All Surface Water Use





Connection Is Everywhere



Gaining and Losing
Reaches of Rivers and
Channels
of the Sacramento
Valley

Source: USGS Central Valley Hydrologic Model (CVHM) Values are Average Annual Volumes for 1961 – 2003 Units in Acre-feet per year



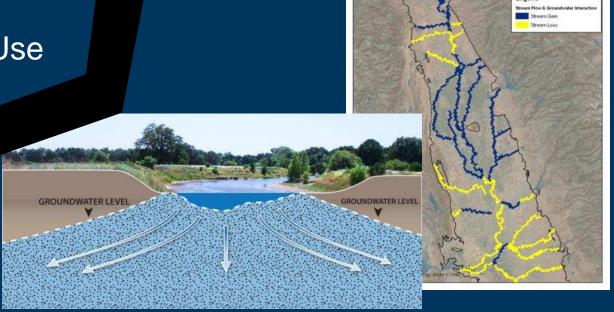
State Water Policy

A Rift

- Surface Water
 - Quantified Allocations
 - Reporting of Use
- Groundwater
 - No Quantified Allocations
 - No Reporting of Use

Physical Reality:

 Groundwater and Surface Water are Inseparable





Successful Groundwater Management Does Happen

- 22 Adjudicated Basins
- Locally Managed Basins



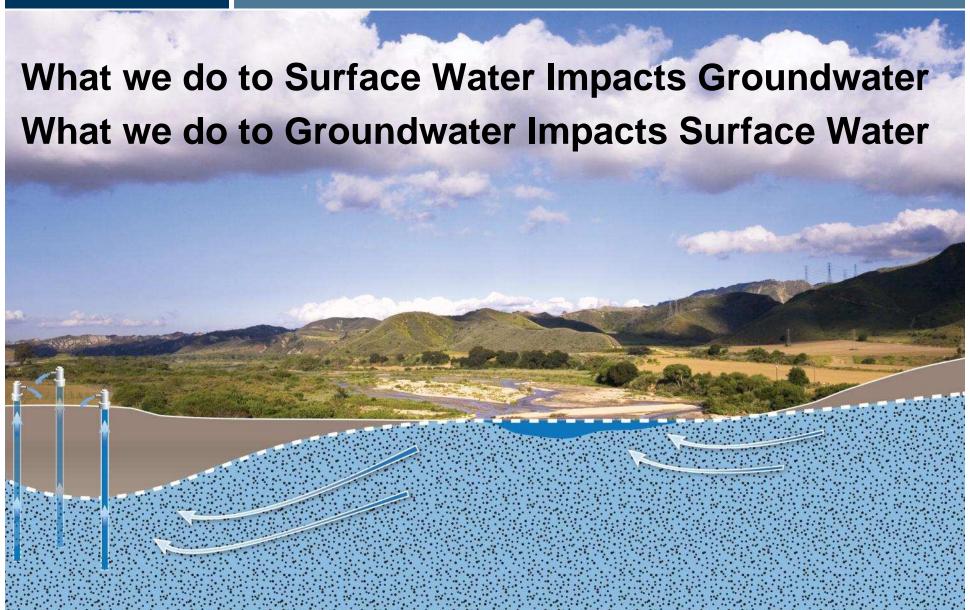
- Response to Conflict or Crisis
- Unique Opportunity
- After Surface Flows and Ecosystems Already Degraded

We Can't Wait for Crisis





Codependent





ONE Water Supply



